

REMARKS

As a preliminary matter, it is noted that claims 1-7 were amended in the PCT phase in a letter dated May 12, 1999. If the Examiner is lacking a copy of the amended claims, she is requested to contact the undersigned. The further amendments made to these claims serve to remove multiple dependency. It is noted that the previous claim fee calculations by both applicants and the PTO were in error. However, in view of the above claim amendments, it is submitted that the such errors are moot. If any additional claim fees are requirement please charge to deposit account 20-1430 and credit any overpayment to the same account.

Restriction requirement

In response to the restriction requirement, applicants elect Group I with traverse.

The Examiner says that Groups I, II, III and IV do not relate to a single general inventive concept under PCT Rule 13.1 in that Group I claims lack the technical features of Group II claims, and Group I and II claims lack the technical features of Group III and Group IV.

It is respectfully submitted that PCT Rule 13.1 does not lead to lack of unity in the present case. The rule states that unity of invention is fulfilled when "there is a special technical relationship among those inventions involving one or more of the same or corresponding special technical features." Accordingly, unity is satisfied between two groups of claims if the groups have a special technical feature in common. The rule does not require that two groups of claims have every technical feature in common.

Here, claim 1 of Group I recites the special technical feature that "randomisation extends to cover the overlap of a single pair of zinc fingers." Claim 4 of Group II depends from claim 1 (or claims depending therefrom), and thus includes the same special technical feature. Claim 19 of Group III also depends from claim 1 (or claims depending therefrom), and therefore also incorporates this special technical feature. Claim 23 of Group IV depends from claim 1 (or claims depending therefrom) and therefore also incorporates the special technical feature of claim 1. Therefore all of the present claims incorporate the special technical feature of randomization extending to cover the overlap of a single pair of zinc fingers. Because all of the claims share a special technical feature, there is unity of invention.

Species Election

In response to the species election for the Group I and II claims, applicants elect Species A. All of the claims read on the elected species. This requirement is traversed on the basis that species A and B designated by the Examiner are not mutually exclusive as required by MPEP 806.04(f). The peptides of species A can be used with or without the linkers of species B (as the Examiner herself says). If the peptides of species A can be used without the linkers of species B, then the two species are not mutually exclusive. Applicants therefore request that the species election be withdrawn.

In the event that the lack of unity requirement for the Group III and IV claims is withdrawn for the reasons given above, applicants elect Species B for these claims. Claims 19, and 21-25 read on the elected species.

Following the election of species, applicants note that MPEP 809.02© requires a "complete action on the merits of all claims readable on the species."

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at .

Respectfully submitted,



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**VERSION WITH MARKINGS TO SHOW CHANGES MADE
IN THE CLAIMS**

Claim 3 was amended as follows:

3. (Amended) A library according to claim 1 [or claim 2], wherein one and a half zinc fingers are randomised in each polypeptide.

Claim 4 was amended as follows:

4. (Amended) A set of zinc finger polypeptide libraries which encode overlapping zinc finger polypeptides, according to [any one of claims 1 to 4] claim 1, wherein the polypeptides may be assembled after selection to form a multifinger zinc finger polypeptide.

Claim 6 was amended as follows:

6. (Amended) A library [or set of libraries] according to [any preceding] claim 1, wherein the randomised positions are selected from positions -1, 1, 2, 3, 5 and 6.

Claim 7 was amended as follows:

7. (Amended) A library according to [any preceding] claim 1, wherein the randomisation of amino acid residues is restricted such that the following amino acids may appear at the given positions:

Position	Possible Amino Acids
-1	R, Q, H, N, D, A, T
1	S, R, K, N
2	D, A, R, Q, H, K, S, N

3	H, N, S, T, V, A, D
5	I, T, K
6	R, Q, V, A, E K, N, T

Claim 10 was amended as follows:

10. (Amended) A library according to [any preceding] claim 1, wherein each zinc finger has the general primary structure

(A) $X^a C X_{2-4} C X_{2-3} F X^c X X X X L X X H X X X^b H$ – linker (SEQ ID NO:5)
-1 1 2 3 4 5 6 7 8 9

Claim 12 was amended as follows:

12. (Amended) A library according to claim 10 [or claim 11] wherein X_{2-4} is selected from any one of: S-X, E-X, K-X, T-X, P-X and R-X.

Claim 13 was amended as follows:

13. (Amended) A library according to [any one of claims] claim 10 [to 12] wherein X^b is T or I.

Claim 14 was amended as follows:

14. (Amended) A library according to [any one of claims] claim 10 [to 13] wherein X_{2-3} is G-K-A, G-K-C, G-K-S, G-K-G, M-R-N or M-R.

Claim 15 was amended as follows:

15. (Amended) A library according to [any one of claims] claim 10 [to 14] wherein the linker is T-G-E-K (SEQ ID NO:6) or T-G-E-K-P(SEQ ID NO:7).

Claim 16 was amended as follows:

16. (Amended) A library according to[, any one of claims] claim 10 [to 15] wherein position +9 is R or K.

Claim 17 was amended as follows:

17. (Amended) A library according to [any one of claims] claim 10 [to 16] wherein positions +1, +S and +8 are not occupied by any one of the hydrophobic amino acids, F, W or Y.

Claim 19 was amended as follows:

19. (Amended) A method for preparing a library of nucleic acid binding proteins of the Cys2-His2 zinc finger class capable of binding to a target nucleic acid sequence, comprising the steps of:

- a) selecting a model zinc finger polypeptide from the group' consisting of naturally occurring zinc finger polypeptides and consensus zinc finger polypeptides; and
- b) randomising more than one finger therein according to [any one of claims] claim 1 to 9.

Claim 23 was amended as follows:

23. (Amended) A method for determining the presence of a target nucleic acid molecule, comprising the steps of:

- a) preparing a nucleic acid binding protein by the method of [any preceding] claim 1 which is specific for the target nucleic acid molecule;
- b) exposing a test system comprising the target nucleic acid molecule to the nucleic acid binding protein under conditions which promote binding; and removing any nucleic acid binding protein which remains unbound;
- c) detecting the presence of the nucleic acid binding protein in the test system.

Claim 25 was amended as follows:

25. (Amended) A method according to claim 23 [or claim 24] wherein the , nucleic acid binding protein, in use, is displayed on the surface of a filamentous bacteriophage and the presence of the nucleic acid binding protein is detected by detecting the bacteriophage or a component thereof.